Bowden's Hobby Circuits

A small collection of electronic circuits for the hobbyist or student. Site includes 100+ circuit diagrams with text descriptions, several electronic calculators, links to related sites, commercial kits and projects, newsgroups, and educational areas.

Most of the circuits can be built using common components available from Radio Shack, Digikey, Jameco, Mouser, Allied electronics, or salvaged from scrap electronic equipment. Most circuits have been built, tested, and believed to perform as described, however possible mistakes may be found.

What's New Here? (10/05/11)

Digital/Computer
- 16 Bit PC Serial Port Receiver (CMOS)
- 24 bit ISA card Installs into your computer. Parts, plans, schematics and programming available. Also may be purchased as a kit.
- 32 Bit Serial Receiver (57.6 K Baud TTL & CMOS)
- Parallel Port Relay Interface Circuit
- Reading Data From The Parallel Port
- 1 Second Time Base From Crystal Osc.
- 32,768 KHz Oscillator Using A Common Watch Crystal
- Digital Electronic Lock

Telephone Circuits
- PIC Security System Dials Your Cell Phone
- Use Old Telephones as Intercom
- Telephone In-Use LED Indicator
- Telephone In-Use Relay Circuit
- Telephone Ring Generator Using 60Hz Power Transformer
- Telephone Ring Generator Using Switching Power Supply
- Telephone Audio Interface

LED Circuits
- 1.5 Volt Dual LED Flasher
- 40 LED Bicycle Light (555 Timer - 6 volt)
- 28 LED Clock
- 72 LED Clock
- 10 to 100 LED Sequencer Using a Matrix
- PIC Digital Clock Timer
- PIC Digital Timer (4 timed outputs)
- Binary Coded Decimal (BCD) Clock
- Digital LED Clock and Timer
- Astable Multivibrator
- Expandable 16 Stage LED Sequencer
- Discrete Multistage Light Sequencer
- 16 Stage Bi-Directional LED Sequencer
- 10 Stage LED Sequencer
- 18 Stage LED Sequencer
- 9 Second LED Relay Timer
- Two Transistor LED Flasher
- 1.5 Volt LED Flashers
- LED Photo Sensor Circuit
- Fading Red Eyes
- 12 Volt Lamp Fader (LEDs or incandescent)
- LED Battery Condition Indicator
- 3.6 Volt (cell phone) LED Battery Meter
- 8 Stage LED VU Meter
- Battery Equal Charge Indicator
- IR Remote Control Tester
- AC Line Powered LEDs
- Line Powered White LEDs
- LED Traffic Lights

**Analog / RF Circuits**

- Mechanical Wall Clock Quartz Synchronizer
- Superhet AM Broadcast Receiver
- AM Broadcast Loop Antenna
- LED Decibel Meter
- Whistle On - Whistle Off
- Long Loopstick AM Radio Antenna
- Micro Power AM Broadcast Transmitter
- FM Beacon Transmitter (88-108 MHz)
- Op-Amp Basics -
  The text information for the basic Op-Amp operation, 2nd order filters and bandpass filters was obtained in part from the paper back book "Design of Active Filters, With Experiments" by Howard M. Berlin, 1977. The book is out of print but possibly can be found at used book stores, or through Amazon.com
- Active 2nd Order Filters
- Bandpass Filter (Single Op-Amp)
- Low Power Op-Amp - Audio Amp (Intercom)
- Crystal Radio Circuits
- Simple Op-Amp Radio
- Low Frequency Sinewave Generator
- Low Frequency Wien Bridge Sinewave Oscillators
- Simple 3 Transistor Audio Amp (30 milliwatt)
- Improved 3 Transistor Audio Amp (80 milliwatt)
- RC Notch Filter (Twin T)
- Analog Milliamp Meter Used as Voltmeter
A.M. Receiver Block Diagram

www.hobbyprojects.com (Oct. 2011)

- Diodes
- Junction Transistors
- Transistor Fault Finding
- Unijunction Transistor
- Field Effect Transistor
- Operational Amplifier
- Bels, Decibels and DB
- Thyristor Triac and Diac
- Multivibrators
- The Schmitt Trigger 1
- The Schmitt Trigger 2
- Reactance and Impedance in AC Circuits
- Phasors and Resonance
- Microprocessor Systems
- Combination Logic
- Flip Flop

Lasers
Pointers and Handheld - All Colors
Laser Diode Modules | Laser Scanners
Burning & Cutting Lasers
Systems: UV | Blue | Green | Yellow | Red
Systems: Infrared | Q-Switch | RG & RGB
Systems: High Power Fiber Coupled
Laser Listeners | Light Shows | Gun Sights
Laser Plans, Projects, Kits, Fiber Optics
Laser Safety Glasses
High Voltage Products
Antigravity Hovering Craft, Lifters, Books
Can Crusher
Capacitors/Rectifiers/Diodes
Capacitor Charging Power Supplies
Corona And Plasma Drivers
Fish Stunners and Lures
Ion Motors, Force Fields, Detectors
Guns (Electric, Rail, Coil, Plasma, Microwave)
Guns (EMP/HERF/Shock Pulse Generators)
Guns (Mass Launcher/Driver)
Guns (Ion Ray / Charge)
High Energy Pulsers/Chargers
High Power IGBT Switches for Tesla Coils, etc.
Induction Coils
Jacob’s Ladder & Singing Plasma Arc
Marx Impulse Generators
Power Supplies - High Voltage DC
Power Supplies - High Voltage, High Frequency
Shocking Electric Modules
Spark Gap Switches
Spectrum Tubes

Static Electricity, Electrostatics
Tesla Coils | Tesla Accessories & Books
Toroids & HV Terminals
Transformers (HV Flybacks, HF, Parts, etc.)
Transformers - High Voltage Current Limited
Triggers/Ignitors/CDI
Van de Graaff Generators
VLF/ELF Technology
Wire/Capacitor Exploder, Plasma Driller
Scientific & Educational
Action Science Projects
Antigravity Hovering Craft, Lifters, Books
Books (Technical, "How-To")
Electronic Kits (Easy To Build, Low Cost)
General Science
Hydrogen Fuel Production & Science Projects
Induction Heaters, Neon Testers, Etching Pens
Ion Motors and Propulsion, Ion Detector
Jacob's Ladders (Assembled, Kits, Plans)
Jokes and Pranks (Electric Man, TV/Radio Joker)
Kid's Science / Educational Toys & Kits
Kirlian Photography
Magnets - High Power
Magnetic Field/Sunspot/UFO/Tremor Detectors
Microscopes, Telescopes
Optics
Paranormal Detectors
Pyrotechnics Like Grandpa Used To Make
Robot Kits: Beginner | Intermediate | Advanced
Scientific Plans (Atom Smashing, etc.)
Spectrum Tubes
Static Electricity (Van De Graaff, Wimhurst, etc.)
Tesla Coils (Assembled, Kits, Plans)
Ultrasonics Neon and Plasma
Transformers: General Purpose, Single Ended,
Special Effects, UL2161, all types
Transformers: 12V DC & Automotive Neon
Garden/Pathway Andromeda Lighting - SALE
Induction Heaters, Neon Testers, Etching Pens
Plasma Displays: Globes, Columns, Tornado
Plasma Fire Sabers and Accessories - SALE
Energy
Wall Adapters, Power Supplies & Converters
Hydrogen Fuel Production & Science Projects
"Free" Energy (Solar, Methane, Wind, etc.)
Personal Protection and Home Security
Electrical Shocking Deterrents
Flashlights
Intrusion Detection, Home and Property Alarms
Night Vision (Starlight and IR Thermal Imaging)
Stun Guns, Air Tasers, Pepper Spray
Ultrasonic Deterrents
Surveillance
Bug Detection & Transmitters (FM, VHF, UHF)
Hearing Aids, Parabolic & Shotgun Mics
Laser Listeners
Night Vision (Infrared and Thermal Imaging)
Telephone Recorders and Transmitters
Cameras: Video Surveillance and Transmitters
Cameras: Hidden Surveillance
Cameras: Dummy Theramagnetic Pulser
Bio Energy Healing Machines
Hypnosis, Mind Control, Brain Wave Enhancing
Lakhovsky Multiwave Healing Machines
Negative Ion Air Purification & Generators
Ozone Air & Water Purifiers, Cells & Drivers
Pest Control
Dog and Rodent
Garden Pests, Ultrasonic and Electric
Insect and Mosquitoes
Guns
Electric, Rail, Coil, Plasma Impulse, Microwave
EMP/HERF
Ion Ray/Charge
Stun Guns, Air Tasers, Pepper Spray
BB Pistols, Slingshots, Paint Guns
Ultrasonic and Infrasonic Devices
Ultrasonics for Property Protection
Ultrasonics for Animal and Dog Control
Ultrasonic Listening Devices
Infrasonic Generators and Drivers
Surplus and Shop Cleanout Specials

Surplus Electronics
Shop Cleanout Specials
Paranormal
Paranormal Detection Equipment
MECHANICAL AMPLIFIER

(http://www.dself.dsl.pipex.com/MUSEUM/museum.htm)